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Resupinate polypores from mixed ombrophilous forests in southern Brazil

Mauro C. Westphalen* & Rosa Mara Borges da Silveira

Universidade Federal do Rio Grande do Sul, Departamento de Botânica
Av. Bento Gonçalves, 9500, 91501-970, Porto Alegre, RS, Brazil
* Correspondence to: *maurowestphalen@yahoo.com.br*

Abstract — During a survey of polypore fungi in the municipality of São Francisco de Paula, Rio Grande do Sul State, Brazil, 24 resupinate species were identified. *Trechispora mollusca*, *Antrodia variiformis*, *Diplomitoporus venezuelicus*, and *Flaviporus subundatus*, rare species in Brazil, are fully described, discussed and illustrated. Comments are also given on *Fomitiporia maxonii*, recorded for the first time from Rio Grande do Sul State. An identification key and a checklist of the species are presented.

Key words — *Polyporaceae,* fungal diversity, neotropics

Introduction

Polypore fungi are characterized by a tubular hymenophore and being predominantly xylophilous, but they can also grow on soil or plant litter and therefore are extremely important in nutrient and energy cycling (Webster & Weber 2007). Wood-decay fungi can be divided into two large groups —white rot fungi that decompose cellulose, hemicellulose, and lignin and brown rot fungi that decompose only cellulose and hemicellulose. Wood decay fungi may cause damage when they attack wood, reducing its commercial value, and when they parasitise species of economic interest, causing a slump in productivity (Wright & Albertó 2006).

In polypores, both macro and microscopic characters are highly variable. Macroscopically, basidiomes can be resupinate or pileate, but transitions between these forms can also be observed (Ryvarden 1991). Although macro- and microscopic characters are very important in the characterization of taxa, polypores do not form a monophyletic group, and several cases of morphological convergence exist (Hibbett & Binder 2002).

Since Rick's pioneer study of macroscopic fungi, including polypores, in the state of Rio Grande do Sul (Fidalgo 1962, Rick 1960), several other taxonomic studies have been undertaken in the State on that group (Silveira & Guerrero 1991, Groposo & Loguercio-Leite 2002, Coelho et al. 2006, Reck & Silveira 2008). Silveira et al. (2008) surveyed the pileate polypores from the São Francisco de Paula National Forest. Our survey of resupinate polypore species of São Francisco de Paula continues this study, while expanding knowledge of fungi in the region.

Materials & methods

Most examined specimens were collected from April 2009 to October 2010 in the mixed ombrophilous forest of the municipality of São Francisco de Paula, in northeastern Rio Grande do Sul State, southern Brazil. Specimens previously collected in the region were also included in this study. The mixed ombrophilous forest is characterized by subtropical vegetation with the presence of the coniferous tree *Araucaria angustifolia* (Bertol.) Kuntze. The municipality of São Francisco de Paula is located about 900m above sea level and has an area of 3274 km^2. The climate in the region is of the Cfb type, according to Köppen Classification, with rainfall high in all months (average of 2252 mm) and average annual temperature of 14.5 °C (Mota 1951, Backes 1999).

The basidiomes collected were analyzed macroscopically and later dried at room temperature. For microscopy analysis, freehand sections of the basidiomes were mounted on microscope slides with 3% KOH solution and 1% phloxine solution. Amyloid or dextrinoid reactions were observed in Melzer's reagent. Drawings of the microstructures were made with the aid of a drawing tube. All specimens were deposited at ICN herbarium (Universidade Federal do Rio Grande do Sul, Brazil).

Taxonomy

Key to species of resupinate polypores recorded in São Francisco de Paula

1a. Hyphal system monomitic 2
1b. Hyphal system di–trimitic 7

2a. Generative hyphae with clamps 3
2b. Generative hyphae simple septate 4

3a. Encrusted cystidia present in the hymenium . . . . *Trechispora regularis*
3b. Cystidia absent . . . . *Trechispora mollusca*

4a. Basidiomes white to cream, very fragile, basidiospores cylindrical . . . *Ceriporia viridans*
4b. Basidiomes isabelline to pinkish, tough, basidiospores globose to subglobose 5

5a. Cystidia absent in the trama and hymenium, only with encrusted hyphal ends
present in the dissepiments . . . . *Rigidoporus crocatus*
5b. Cystidia present in the trama or hymenium 6

6a. Pore surface pale orange-pink to vivid pink, becoming smoke gray to dark brown
after drying, cystidia usually present in the trama and hymenium, basidiospores
subglobose . . . . *Rigidoporus vinctus*
6b. Pore surface cream to isabelline, becoming only slightly darker after drying,
cystidia restricted to the trama, basidiospores globose . . . . . *Rigidoporus undatus*

7a. Generative hyphae with simple septa 8
7b. Generative hyphae with clamps 12

8a. Basidiomes pinkish, not becoming black in KOH, basidiospores very small (2.5–3 × 2–2.5 µm) .... *Flaviporus subundatus*
8b. Basidiomes in shades of brown, becoming black in KOH, basidiospores larger 9

9a. Basidiospores non-dextrinoid, ellipsoid, rusty brown ...... *Fulvifomes umbrinellus*
9b. Basidiospores dextrinoid, globose, hyaline to pale yellow 10

10a. Setae lacking .... *Fomitiporia maxonii*
10b. Setae present 11

11a. Pores 7–10/mm, basidiospores 3.5–5.0 µm in diam., setae 11–27 µm long .... *Phellinus bambusarum*
11b. Pores 2–5/mm, basidiospores 4.5–7 µm in diam., setae 12–40 µm long .... *Fomitiporia sanctichampagnatii*

12a. Basidiospores ornamented, 10–15 µm long .... *Pachykytospora papyracea*
12b. Basidiospores smooth, less than 10 µm long 13

13a. Basidiomes perennial, basidiospores dextrinoid, truncate and thick-walled .... *Perenniporia medulla-panis*
13b. Basidiomes annual, basidiospores non-dextrinoid, different shaped and thin-walled 14

14a. Cystidia present 15
14b. Cystidia absent 17

15a. Pore surface yellowish becoming red when bruised, cystidia finely encrusted .... *Junghuhnia carneola*
15b. Pore surface differently colored, cystidia coarsely encrusted 16

16a. Pore surface cinnamon to brick-red, basidiospores narrowly ellipsoid to subcylindrical .... *Junghuhnia meridionalis*
16b. Pore surface cream to pale orange-pink, basidiospores broadly ellipsoid to ovoid .... *Junghuhnia nitida*

17a. Pore surface lilac grey, vegetative hyphae dextrinoid, basidiomes reddening the substrate .... *Tinctoporellus epimiltinus*
17b. Pore surface white to beige, vegetative hyphae nondextrinoid, basidiomes not reddening the substrate 18

18a. Vegetative hyphae weakly amyloid and dissolving in KOH *Cinereomyces lindbladii*
18b. Vegetative hyphae negative in Melzer's reagent and not dissolving in KOH 19

19a. Scattered hyphae with an apical cap of crystals, spores 0.5–1 µm wide, lunate .... *Sidera lenis*
19b. No hyphae with encrusted cap, spores wider, ellipsoid to cylindrical 20

20a. Pores 6–9/mm, basidiospores 1–2 µm wide .... *Diplomitoporus venezuelicus*
20b. Pores 1–5/mm, basidiospores more than 2 µm wide 21

21a. Causing a white rot, basidiospores ellipsoid, capitate cystidioles present in the hymenium 22

21b. Causing a brown rot, basidiospores cylindrical, capitate cystidioles absent 23

22a. Pores mostly irregular, 1–3/mm, basidiospores 5–6.5 × 3–4 µm ....*Schizopora paradoxa*

22b. Pores regular, 3–5/mm, basidiospores 3.5–5 × 2.5–3.5 µm ... *Schizopora flavipora*

23a. Pores mostly round to angular, sometimes slightly split and elongated, basidiospores 8–12 × 3.5–5 µm .... *Antrodia albida*

23b. Pore surface mostly irpicoid to daedaleoid, pores strongly split, basidiospores 6.5–10 × 2–4 µm .... *Antrodia variiformis*

Antrodia albida (Fr.) Donk, Persoonia 4(3): 339, 1966

> Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, FLONA, 18.V.2009, leg. M.C. Westphalen 183/09 (ICN 154265); 25.IX.2009, leg. M.C. Westphalen 258/09 (ICN 154353); CPCN Pró-Mata, 29.V.2009, leg. M.C. Westphalen 204/09 (ICN 154266), leg. M.C. Westphalen 213/09 (ICN 154267), leg. M.C. Westphalen 214/09 (ICN 154268).

Antrodia variiformis (Peck) Donk, Persoonia 4(3): 340, 1966 Figs 1–3, Plate 1

Basidiomes annual, resupinate, adnate, effused, separable, ≤1.5 mm thick, corky and brittle; margin sharp, cream colored, narrow, ≤1 mm wide; pore surface at first beige, drying cork colored, pale cinnamon or light brown, pores irregular, distinctly split and sinuous, irpicoid to daedaloid, 1–3 per mm; tubes cream to pale brown, ≤1 mm deep; subiculum cream to beige, often forming a darker cinnamon to brownish zone in the regions where in contact with the substrate, ≤0.5 mm thick.

Hyphal system dimitic; generative hyphae with clamps, thin-walled, hyaline, 2–4 µm wide; skeletal hyphae dominant, thick-walled to almost solid, hyaline to yellowish, straight, unbranched to dichotomously branched, 3–6 µm wide, IKI-; cystidia absent, scattered fusoid cystidioles present. Basidia clavate,

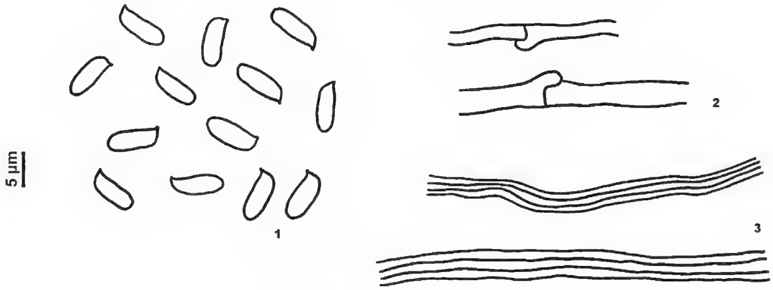

Fig. 1–3. *Antrodia variiformis* .
1. Basidiospores. 2. Generative hyphae. 3. Skeletal hyphae.

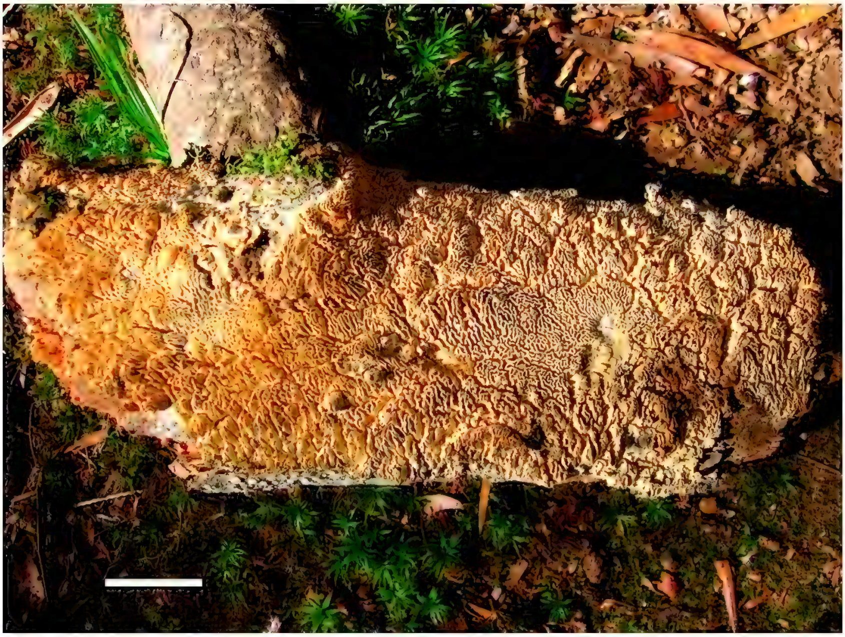

Plate 1. Basidiome of *Antrodia variiformis*. Scale bar = 1 cm

4-sterigmate. Basidiospores cylindrical, hyaline, smooth, thin-walled, (6-)6.5–10 × (2-)2.5–4 µm.

Substrata: Fallen logs of an undetermined angiosperm.

Distribution: Previously recorded from North America, Europe and Africa. This is the first record of the species from South America.

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, Hotel Veraneio Hampel, 26.V.2008, leg. M.A. Reck s.n. (ICN 154706). **CANADÁ. Quebec**, Gaspé county, Kelly's Camp, VIII.1936, leg. C.G. Riley s.n. (S F6828)

Remarks: *Antrodia variiformis* is characterized by the irregular irpicoid to daedaleoid hymenophore with large pores and the beige to cork-colored pore surface. *Antrodia albida* is a similar species differentiated by the white to cream basidiomes when fresh with more regular pores. The specimen of *A. variiformis* collected in Rio Grande do Sul State has a fully resupinate basidiome, but the species can be effused-reflexed or, more rarely, sessile (Gilbertson & Ryvarden 1986). The specimen examined from S herbarium is very similar to ours, but it has lifted margins forming, in some regions, small brown pilei. The spore size, mainly the length, of the Brazilian collection also differs from the descriptions given by other authors. Gilbertson & Ryvarden (1986) described the basidiospores of *A. variiformis* as 8–12 × 3–4.5 µm, Ryvarden & Johansen (1980) measured them 8–10(-11) × 2.5–4 µm, while according to Niemelä

(1985) they are 8–9 × 2.8–3 µm. In the S herbarium specimen the basidiospores were also slightly shorter, 7–8.5 × 2.5–3.5 µm. We believe that this variation in the spore size is normal within the species, especially when comparing collections from different regions of the world. As all the other characteristics of the collected specimen are the same as those of *A. variiformis*, we identified it as such.

Ceriporia viridans (Berk. & Broome) Donk, Meddn Bot. Mus. Herb. Rijhs Universit. Utrecht. 9: 171, 1933

Specimen examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, CPCN Pró-Mata, leg. M.C. Westphalen 345/11, 07.V.2011 (ICN 170625).

Cinereomyces lindbladii (Berk.) Jülich, Biblioth. Mycol. 85: 400, 1982

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, FLONA, 18.V.2009, leg. M.A. Reck 073/09 (ICN 154359); 22.VI.2009, leg. M.C. Westphalen 244/09 (ICN 154275); 25.IX.2009, leg. M.C. Westphalen 254/09 (ICN 154360), leg. M.C. Westphalen 257/09 (ICN 154361).

Diplomitoporus venezuelicus Ryvarden & Iturr., Mycol. 95(6): 1069, 2003 Figs 4–7

Basidiomes annual, resupinate, adnate, forming more or less confluent patches on the substrate, ≤1.5 mm thick, soft and somewhat watery when fresh becoming rigid upon drying; marginal sterile zone white to cream, very narrow,

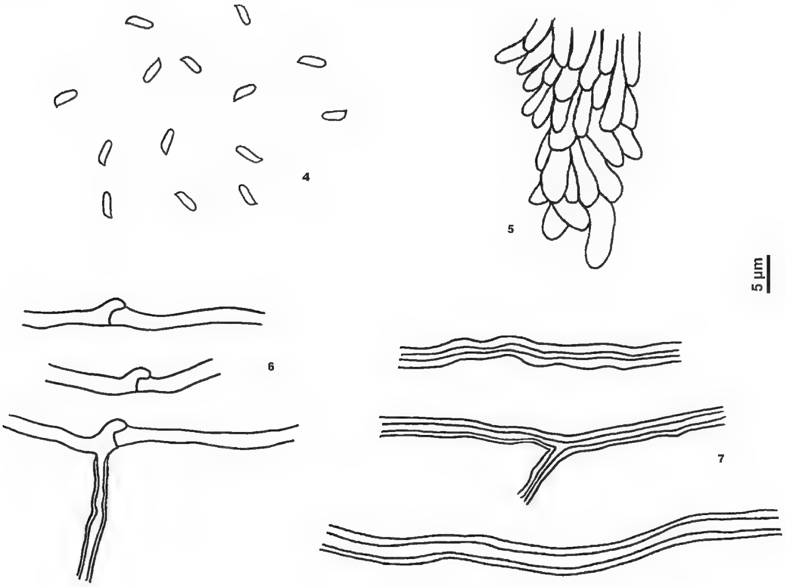

Fig. 4–7. *Diplomitoporus venezuelicus*.
4. Basidiospores. 5. Hyphal pegs. 6. Generative hyphae. 7. Skeletal hyphae.

≤0.15 mm wide; pore surface white to cream drying beige to straw-colored, pores regular, round to angular, 6–9 per mm, tubes concolorous with the pore surface, ≤1.5 mm deep; subiculum white to cream, very thin, ≤0.35 mm thick.

Hyphal system dimitic; generative hyphae with clamps, hyaline and thin-walled, 2–3 µm in diam.; skeletal hyphae dominating, hyaline and thick-walled, mostly unbranched, 2–4 µm in diam.; hyphal pegs scattered in the hymenium, difficult to observe. Basidia clavate, 4-sterigmate; basidiospores cylindrical, hyaline, thin-walled, smooth, (3.5–)4–4.5 ×1–1.5(–2) µm.

Substrata: Fallen logs of an undetermined angiosperm.

Distribution: Known from Venezuela, Colombia and Brazil.

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, CPCN Pró-Mata, leg. M.C. Westphalen 347/11, 07.V.2011 (ICN 170624). **COLOMBIA. Dpt. Magdalenha**, Sierra Nevada de Santa Marta, Reserva Forestal San Lorenzo, leg. L. Ryvarden 16195, 17-19.VI.1978 (O 918147).

Remarks: *Diplomitoporus venezuelicus* is characterized by the white to cream resupinate basidiomes with small pores and the small cylindrical basidiospores. The specimen examined has a few hyphal pegs, although these are sometimes difficult to observe. This is the first report of hyphal pegs for this species.

Flaviporus subundatus (Murrill) Ginns, Canad. J. Bot. 58(14): 1587, 1980 Figs 8–10

Basidiomes annual to perennial, resupinate, adnate, ≤3 mm thick, tough when fresh, very hard and resinous when dried, usually cracking into pieces; margin very narrow to absent; pore surface flesh-colored to pinkish, pores regular, circular to angular, 8–10 per mm; tubes concolorous with the pore surface, ≤2.5 mm thick; subiculum very thin to absent, ochraceous to brownish, ≤0.5 mm thick.

Hyphal system dimitic, hyphae strongly agglutinated; generative hyphae with simple septa, hyaline, thin to thick-walled, 2.5–5 µm in diam.; skeletal hyphae dominating, hyaline, thick-walled, unbranched, ≤5.5 µm thick.

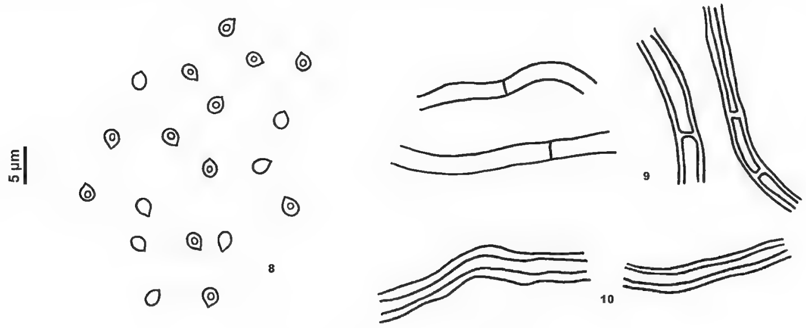

Fig. 8–10. *Flaviporus subundatus.*
8. Basidiospores. 9. Generative hyphae. 10. Skeletal hyphae

Cystidia present, embedded in the trama and very difficult to separate, usually seen only as large club-like crystalline structures. Basidia clavate, 4-sterigmate; basidiospores very small, subglobose to broadly ellipsoid, hyaline, thin-walled, smooth, 2.5–3 × 2–2.5 µm.

Substrata: Fallen logs of an undetermined angiosperm.

Distribution: Pantropical.

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, Hotel Veraneio Hampel, leg. M.C. Westphalen 312/10, 27.III.2010 (ICN 154701). **CUBA. Guantánamo**, Baracoa, El Yunque Mountain, leg. L.M. Underwood & F.S. Earle 1168, III/1903 (BPI US0243504, isotype of *Poria subundata*).

Remarks: *Flaviporus subundatus* can be easily identified by the resinous-hard resupinate basidiomes, pinkish color, very small pores and basidiospores, generative hyphae with simple-septa, and incrusted cystidia embedded in the trama. Ryvarden (2007) recently transferred this species from *Flaviporus* Murrill to *Junghuhnia* Corda. However, both genera (sensu typorum) are characterized by the presence of clamp-connections in the generative hyphae. The basidiome color and absence of clamp-connections in *F. subundatus* are features that come close to those of *Rigidoporus*, but the latter usually has a monomitic hyphal system and larger basidiospores. We consider that neither *Flaviporus* nor *Junghuhnia* are appropriate to accommodate this species and that further study involving molecular data is necessary to resolve its generic placement.

Fomitiporia maxonii Murrill, N. Amer. Fl. 9(1): 11, 1907

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, FLONA, 24.IV.2009, leg. M.C. Westphalen 161/09 (ICN 154308); CPCN Pró-Mata, 26.IX.2009, leg. M.C. Westphalen 270/09 (ICN 154374), leg. M.C. Westphalen 272/09 (ICN 154375).

Remarks: *Fomitiporia maxonii* is very similar to *F. punctata* (P. Karst.) Murrill [≡ *Phellinus punctatus* (P. Karst.) Pilát], differing only by basidiospore size (*F. maxonii*, 5–6.5 × 4.5–6 µm; *F. punctata*, 6.5–8.5 × 5.5–7 µm). Ryvarden (1985) considered them to be synonymous. However, more recently, phylogenetic studies by Decock et al. (2007) show that they represent two different taxa and that *F. maxonii* is widely distributed in the neotropics, including Brazil. Even though this is the first confirmed record of the species from Rio Grande do Sul, it is probable that many collections from the State identified as *Phellinus punctatus* actually represent *F. maxonii*.

Fomitiporia sanctichampagnatii G. Coelho, R.M. Silveira & Rajchenb., Fung. Diversity 36: 3, 2009

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, CPCN Pró-Mata, 06.VI.2006, leg. G. Coelho 493-1 (ICN 139201), leg. G. Coelho 493-2 (ICN 139202), leg. G. Coelho 493-3 (ICN 139203).

Fulvifomes umbrinellus (Bres.) Y.C. Dai, Fung. Diversity 45: 203, 2010

Specimen examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, FLONA, 26-III-2010, leg. M.C. Westphalen 305/10 (ICN 154665); CPCN Pró-Mata, 26.IX.2009, leg. M.C. Westphalen 266/09 (ICN 154373).

Junghuhnia carneola (Bres.) Rajchenb., Revista Invest. Agropec. 19: 45, 1984

Specimen examined: **BRAZIL. Rio Grande do Sul**: São Francisco de Paula, CPCN Pró-Mata, 14.XI.2009, leg. M.C. Westphalen 289/09 (ICN 154468).

Junghuhnia meridionalis (Rajchenb.) Rajchenb., Austral. Syst. Bot. 16(4): 477, 2003

Specimen examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, FLONA, 22.VI.2009, leg. M.C. Westphalen 238/09 (ICN 154290); 26-III-2010, leg. M.C. Westphalen 295/10, (ICN 154659); leg. M.C. Westphalen 303/10 (ICN 154660).

Junghuhnia nitida (Pers.) Ryvarden, Persoonia 7(1): 18, 1972

Specimen examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, CPCN Pró-Mata, 30.V.2009, leg. M.C. Westphalen 222/09 (ICN 154296); FLONA, 22.VI.2009, leg. M.C. Westphalen 236/09 (ICN 154294), leg. M.C. Westphalen 241/09 (ICN 154295).

Pachykytospora papyracea (Cooke) Ryvarden, Norweg. J. Bot. 19: 233, 1972

Specimen examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, CPCN Pró-Mata, 29.V.2009, leg. M.C. Westphalen 219/09 (ICN 154302); 26.IX.2009, leg. M.C. Westphalen 265/09 (ICN 154369); 26-III-2010, leg. M.C. Westphalen 302/10 (ICN 154663).

Perenniporia medulla-panis (Jacq.) Donk, Persoonia 5(1): 76, 1967

Specimen examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, CPCN Pró-Mata, 30.V.2009, leg. M.C. Westphalen 224/09 (ICN 154303).

Phellinus bambusarum (Rick) M.J. Larsen, Synopsis Fung. 3: 40, 1990

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, FLONA, 24.IV.2009, leg. M.C. Westphalen 179/09 (ICN 154305); CPCN Pró-Mata, 29.V.2009, leg. M.C. Westphalen 217/09 (ICN 154306); 26.IX.2009, leg. M.C. Westphalen 264/09 (ICN 154372).

Rigidoporus crocatus (Pat.) Ryvarden, Occas. Pap. Farlow Herb. Cryptog. Bot. 18: 13, 1983

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, CPCN Pró-Mata, 29.V.2009, leg. M.C. Westphalen 218/09 (ICN 154320); 07.X.2010, leg. M.C. Westphalen 338/10 (ICN 154703); FLONA, 22.VI.2009, leg. M.C. Westphalen 231/09 (ICN 154316), leg. M.C. Westphalen 248/09 (ICN 154317), leg. M.C. Westphalen 253/09 (ICN 154319).

Rigidoporus undatus (Pers.) Donk, Persoonia 5(1): 115, 1967

Specimens examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, FLONA, 24.IV.2009, leg. M.C. Westphalen 148/09 (ICN 154297); CPCN Pró-Mata, 26.VI.2010, leg. M.C. Westphalen 335/10 (ICN 154695).

Rigidoporus vinctus (Berk.) Ryvarden, Norweg. J. Bot. 19: 143, 1972

SPECIMEN EXAMINED: **BRAZIL. RIO GRANDE DO SUL**, São Francisco de Paula, FLONA, 24.IV.2009, leg. M.C. Westphalen 153/09 (ICN 154315).

Schizopora flavipora (Berk. & M.A. Curtis) Ryvarden, Mycotaxon 23: 186, 1985

SPECIMENS EXAMINED: **BRAZIL. RIO GRANDE DO SUL**, São Francisco de Paula, FLONA, 24.IV.2009, leg. M.C. Westphalen 151/09 (ICN 154280); 18.V.2009, leg. M.C. Westphalen 187/09 (ICN 154281); 25.IX.2009, leg. M.C. Westphalen 259/09 (ICN 154380); CPCN Pró-Mata, 26.IX.2009, leg. M.C. Westphalen 269/09 (ICN 154381); 26.VI.2010, leg. M.C. Westphalen 337/10 (ICN 154691).

Schizopora paradoxa (Schrad.) Donk, Persoonia 5(1): 104, 1967

SPECIMENS EXAMINED: **BRAZIL. RIO GRANDE DO SUL**, São Francisco de Paula, FLONA, 18.V.2009, leg. M.C. Westphalen 184/09 (ICN 154282); CPCN Pró-Mata, 29.V.2009, leg. M.C. Westphalen 208/09 (ICN 154283); 30.V.2009 leg. M.C. Westphalen 228/09 (ICN 154284); 26.IX.2009, leg. M.C. Westphalen 274/09 (ICN 154382).

Sidera lenis (P. Karst.) Miettinen, Mycol. Progr. 10(2): 136, 2011

SPECIMENS EXAMINED: **BRAZIL. RIO GRANDE DO SUL**, São Francisco de Paula, FLONA, 18.V.2009, leg. M.C. Westphalen 182/09 (ICN 154321), leg. M.C. Westphalen 188/09 (ICN 154322); 22.VI.2009, leg. M.C. Westphalen 234/09 (ICN 154323), leg. M.C. Westphalen 245/09 (ICN 154324); CPCN Pró-Mata, 29.V.2009, leg. M.C. Westphalen 220/09 (ICN 154325); 26.IX.2009, leg. M.C. Westphalen 268/09 (ICN 154383).

Tinctoporellus epimiltinus (Berk. & Broome) Ryvarden, Trans. Brit. Mycol. Soc. 73: 19, 1979

SPECIMEN EXAMINED: **BRAZIL. RIO GRANDE DO SUL**, São Francisco de Paula, Hotel Veraneio Hampel, 27.III.2010, leg. M.C. Westphalen 317/10 (ICN 154671).

Trechispora mollusca (Pers.) Liberta, Canad. J. Bot. 51(10): 1878, 1974 FIGS 11–12

BASIDIOMES annual, resupinate, adnate, ≤1 mm thick, very soft and fragile, separable from the substrata; marginal sterile zone white, cottony, arachnoid or fimbriate, sometimes slightly rhizomorphic, narrow to wide; pore surface white when fresh, drying cream, pores irregular, circular to angular, sinuous, split in some parts, 2–6 per mm; tubes concolorous with the pore surface, fragile, ≤1 mm thick; subiculum white to light cream, very thin, soft and fibrous, continuous with the trama.

HYPHAL SYSTEM monomitic; generative hyphae with clamps, thin-walled, branched, often ampullate at the septa, sometimes incrusted with small granules, 2–6 μm in diam., IKI-; cystidia and other sterile elements absent. Basidia clavate to cylindrical, 4-sterigmate; basidiospores ovoid to ellipsoid, hyaline, thin-walled, echinulate, 3.5–4.5 × 2.5–3.5 μm.

SUBSTRATA: Fallen logs of an unknown angiosperm.

DISTRIBUTION: Circumglobal.

SPECIMENS EXAMINED: **BRAZIL. RIO GRANDE DO SUL**, São Francisco de Paula, CPCN Pró-Mata, 26.IX.2009, leg. M.C. Westphalen 276/09 (ICN 154386), leg. M.C. Westphalen 277/09 (ICN 154387).

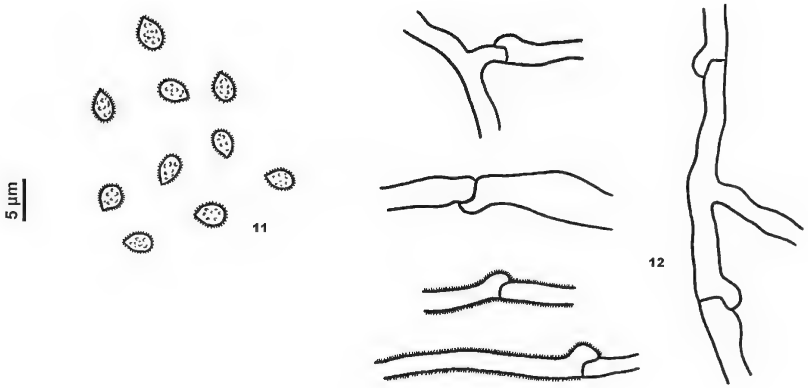

Fig. 11–12. *Trechispora mollusca*.
11. Basidiospores. 12. Generative hyphae.

Remarks: *Trechispora mollusca* is characterized by very fragile basidiomes with cottony margins and sinuous pores. Microscopically it has a monomitic hyphal system and ornamented spores. It is very similar to *T. regularis*, differing only in the absence of cystidia in the hymenium. *Trechispora mollusca* was recently recorded as new to Brazil by Drechsler-Santos et al. (2008), but their Brazilian specimen deposited in FLOR herbarium has effused-reflexed basidiomes and a flexible consistency. After microscopic examination, we identified it as *Junghuhnia undigera* (Berk. & M.A. Curtis) Ryvarden. Therefore, we consider the ICN material cited above as the first record of *T. mollusca* from Rio Grande do Sul State and Brazil.

Trechispora regularis (Murrill) Liberta, Canad. J. Bot. 51(10): 1878, 1974

Specimen examined: **BRAZIL. Rio Grande do Sul**, São Francisco de Paula, FLONA, 22.VI.2009, leg. M.C. Westphalen 246/09 (ICN 154329).

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